FINAL PRESENTATION

I apologise for using this format for presentation but my Microsoft PowerPoint is faulty.

Outline

- Introduction
- Statement of the problem
- Data used
- Methodology
- Results and Discussions
- Recommendations

Introduction

This capstone project is part of the requirements to successfully completing the IBM Data Science Professional Certificate. In this project, I am going to focus on Toronto, Canada, where I am going to use all what I have learned throughout this course to suggest suitable locations for a Japanese restaurant based on geographical locations only. Assume that the demand for Japanese cuisines is rising in Toronto, and it becomes a battle of location for prospective Japanese restaurants. I am going to leverage on the Foursquare API to get location data in order to suggest possible gold mine locations for a client who wants to open a Japanese restaurant.

Statement of the Problem

“Where would a potential Japanese restaurant owner consider setting up shop in Toronto, Canada?”

Data Used

- A list of neighbourhoods and their postal codes in Toronto, Canada
- Geographic coordinates of these neighbourhoods (longitudes and latitudes)
- Venue data of Japanese related restaurants in Toronto

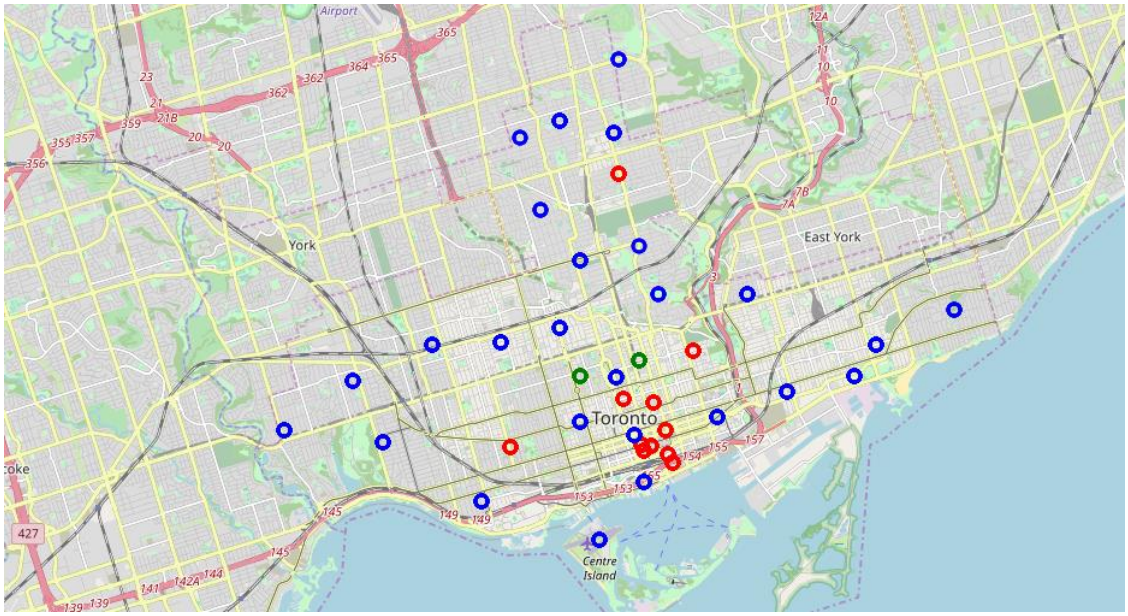
Methodology

I carried out the unsupervised machine learning algorithm clustering using k-means clustering on the project, using a value of three clusters. I used k-means clustering because it has the ability to form unusually shaped clusters, having high tolerance for noise. This makes it suitable for this project.

Results and Discussions

Out[34]:

	Postal code	Borough	Neighborhood	Latitude	Longitude
0	M4E	East Toronto	The Beaches	43.676357	-79.293031
1	M4K	East Toronto	The Danforth West / Riverdale	43.679557	-79.352188
2	M4L	East Toronto	India Bazaar / The Beaches West	43.668999	-79.315572
3	M4M	East Toronto	Studio District	43.659526	-79.340923
4	M4N	Central Toronto	Lawrence Park	43.728020	-79.388790
34	M6P	West Toronto	High Park / The Junction South	43.661608	-79.464763
35	M6R	West Toronto	Parkdale / Roncesvalles	43.648960	-79.456325
36	M6S	West Toronto	Runnymede / Swansea	43.651571	-79.484450
37	M7A	Downtown Toronto	Queen's Park / Ontario Provincial Government	43.662301	-79.389494
38	M7Y	East Toronto	Business reply mail Processing CentrE	43.662744	-79.321558



From the results of the code, Cluster 0 is around the area Underground city and Garden district. Cluster 1 is around Richmond and Grange Park. Cluster 2 is around Church and Wellesley. It is obvious that cluster 0 has the highest number of Japanese restaurants while cluster 1 has the least number of restaurants. In general, each cluster has at least three Japanese restaurants.

Recommendations

Cluster 1 looks like an ideal place to open a Japanese restaurant, because of its close proximity to commercial areas, and more importantly because of the small number of already existing Japanese Restaurants. Cluster 2 would have been a suitable location, but its location is not as profitable as that of cluster 1.

Benefits of this Capstone

- I learnt how to parse data online and use APIs to get data
- I learnt how to apply machine learning algorithms to real life scenarios
- I learned how to visualize data neatly